

Outcome 28: Current Tobacco Users (includes smoking and other forms of tobacco u

Internal variable name: outc28_tobacco_user

Definition: Do you now smoke cigarettes every day, some days, or not at all? + Do you currently use chewing tobacco, snuff, or snus every day, some days, or not at all?

Predictive models

	Mixed, demos only	Logit, no area effects	Mixed with area covariates
	b/se	b/se	b/se
Outcome 28: Current Tobacco Users (includes smoking and other forms of tobacco u			
NH White	0.0000 (.)	0.0000 (.)	0.0000 (.)
NH Black vs. NH White	-0.1097 (0.0959)	-0.1262 (0.1150)	-0.1262 (0.1037)
NH Asian vs. NH White	-0.7332* (0.2887)	-0.6801* (0.3224)	-0.6801* (0.2784)
NH Other vs. NH White	0.0930 (0.1711)	0.1318 (0.1683)	0.1318 (0.1719)
Hispanic vs. NH White	-0.4884** (0.1710)	-0.4108* (0.1891)	-0.4108* (0.1747)
SEX OF RESPONDENT=1	0.0000 (.)	0.0000 (.)	0.0000 (.)
Female	-0.7070*** (0.1035)	-0.7141*** (0.0803)	-0.7141*** (0.1044)
Age 18-34 vs. 65+	0.5158*** (0.1326)	0.5801*** (0.1339)	0.5801*** (0.1370)
Age 35-44 vs. 65+	0.6887*** (0.1830)	0.7291*** (0.1401)	0.7291*** (0.1857)
Age 45-54 vs. 65+	0.6371*** (0.1660)	0.6680*** (0.1363)	0.6680*** (0.1647)
Age 55-64 vs. 65+	0.6821*** (0.1152)	0.7010*** (0.1254)	0.7010*** (0.1156)
65+	0.0000 (.)	0.0000 (.)	0.0000 (.)
% education Bachelor+, population 25+ y/o		-4.2552*** (1.0537)	-4.2552*** (0.8046)
VA BRFSS 2017 SAE outc28_tobacco_user		2.3059*	2.3059**

		(0.9836)	(0.7434)
% veterans		-5.7692	-5.7692*
		(3.0745)	(2.3856)
Log(Cervix Female Rate + 1)		-0.3112	-0.3112**
		(0.1645)	(0.1107)
% veterans # Log(Cervix Female Rate + 1)		3.7759*	3.7759**
		(1.6259)	(1.1295)
Compound % lacking kitchen or complete plumbing		25.1911	25.1911
		(16.1288)	(15.5979)
Percentage calculated by dividing Pop_18_24_ACS_15_19 by Tot_Population_ACS_15_1		3.9951	3.9951*
		(2.1898)	(1.6708)
Compound % lacking kitchen or complete plumbing # Percentage calculated by dividing Pop_18_24_ACS_15_19 by Tot_Population_ACS_15_1		-5.6e+02**	-5.6e+02**
		(199.2464)	(168.7874)
_cons	-1.5820***	-0.9096	-0.9096
	(0.0994)	(0.5458)	(0.4639)
Area effect variance			
var(_cons[FIPS_county])	0.2196***		0.0000
	(0.0473)		(0.0000)

Number of alternative models used to estimate model error = 6.

Results by health districts

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Augusta County	51015	24.8%	(16.3%, 35.8%)	22.3%	(20.6%, 24.1%)
Bath County	51017	27.0%	(7.5%, 63.0%)	18.8%	(15.2%, 23.0%)
Caroline County	51033	39.9%	(19.5%, 64.5%)	20.1%	(17.7%, 22.7%)
Clarke County	51043	14.5%	(3.3%, 46.0%)	18.2%	(16.2%, 20.4%)
Culpeper County	51047	24.4%	(11.2%, 45.3%)	19.0%	(16.5%, 21.8%)
Fauquier County	51061	17.2%	(8.8%, 31.0%)	15.3%	(14.0%, 16.7%)
Frederick County	51069	25.3%	(15.0%, 39.3%)	19.0%	(17.1%, 21.1%)
Highland County	51091	0.0%	(-0.0%, 49.0%)	29.4%	(11.4%, 57.3%)
King George County	51099	9.7%	(2.3%, 33.4%)	9.3%	(6.3%, 13.5%)
Madison County	51113	20.0%	(7.1%, 45.1%)	17.2%	(12.7%, 22.7%)
Orange County	51137	32.9%	(16.3%, 55.2%)	23.7%	(20.3%, 27.4%)
Page County	51139	32.8%	(15.4%, 56.8%)	24.9%	(19.5%, 31.2%)
Rappahannock County	51157	13.9%	(1.9%, 57.0%)	11.5%	(8.7%, 15.2%)
Rockbridge County	51163	16.4%	(6.7%, 34.7%)	19.2%	(16.9%, 21.8%)
Rockingham County	51165	5.1%	(2.1%, 11.8%)	13.3%	(9.8%, 17.7%)
Shenandoah County	51171	23.4%	(11.4%, 42.2%)	19.5%	(15.5%, 24.2%)
Spotsylvania County	51177	20.3%	(12.2%, 31.7%)	17.6%	(16.1%, 19.2%)
Stafford County	51179	22.1%	(13.9%, 33.3%)	13.9%	(11.6%, 16.7%)
Warren County	51187	28.0%	(14.7%, 46.9%)	21.8%	(19.7%, 24.1%)
Buena Vista City	51530	26.7%	(2.9%, 81.5%)	30.0%	(25.5%, 34.9%)
Fredericksburg City	51630	3.9%	(0.6%, 20.1%)	6.6%	(4.1%, 10.2%)
Harrisonburg City	51660	6.6%	(1.1%, 30.2%)	8.0%	(5.1%, 12.3%)
Lexington City	51678	0.0%	(0.0%, 99.4%)	0.1%	(0.0%, 75.6%)
Staunton City	51790	31.9%	(8.2%, 71.0%)	16.6%	(14.2%, 19.3%)
Waynesboro	51820	13.5%	(1.8%, 80.7%)	21.3%	(18.3%, 24.6%)

City					
Winchester City	51840	17.2%	(2.4%, 63.3%)	11.3%	(9.0%, 14.2%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Albemarle County	51003	11.6%	(5.5%, 22.9%)	10.7%	(9.6%, 11.8%)
Alleghany County	51005	42.7%	(24.6%, 62.9%)	27.8%	(23.7%, 32.3%)
Amherst County	51009	22.9%	(11.2%, 41.2%)	23.7%	(21.5%, 26.0%)
Appomattox County	51011	25.0%	(12.5%, 43.8%)	27.5%	(23.8%, 31.5%)
Arlington City	51013	10.7%	(6.0%, 18.3%)	9.0%	(7.7%, 10.5%)
Bedford County	51019	30.8%	(20.7%, 43.2%)	18.2%	(15.9%, 20.7%)
Botetourt County	51023	25.5%	(11.3%, 48.0%)	18.6%	(16.8%, 20.6%)
Campbell County	51031	27.2%	(17.3%, 40.0%)	23.7%	(21.6%, 26.0%)
Craig County	51045	10.5%	(2.7%, 63.4%)	23.7%	(21.0%, 26.6%)
Fairfax County	51059	9.3%	(6.8%, 12.5%)	9.0%	(8.1%, 9.8%)
Fluvanna County	51065	18.4%	(4.6%, 51.4%)	15.2%	(13.2%, 17.6%)
Greene County	51079	0.0%	(0.0%, 42.7%)	19.0%	(15.6%, 22.9%)
Loudoun County	51107	9.0%	(5.5%, 14.6%)	7.9%	(6.9%, 9.0%)
Louisa County	51109	36.7%	(17.9%, 60.6%)	20.6%	(18.3%, 23.0%)
Nelson County	51125	0.0%	(0.0%, 46.0%)	20.3%	(17.6%, 23.2%)
Prince William County	51153	11.8%	(8.3%, 16.6%)	13.6%	(12.5%, 14.7%)
Roanoke County	51161	16.8%	(10.5%, 25.9%)	15.9%	(14.1%, 18.0%)
Alexandria City	51510	10.3%	(5.7%, 18.1%)	10.7%	(9.5%, 12.0%)
Charlottesville City	51540	19.5%	(7.4%, 42.5%)	11.0%	(9.0%, 13.4%)
Covington City	51580	0.0%	(0.0%, 81.2%)	22.0%	(16.5%, 28.8%)
Fairfax City	51600	9.8%	(3.3%, 25.4%)	9.9%	(8.5%, 11.5%)
Falls Church City	51610	4.1%	(1.6%, 37.3%)	7.0%	(5.9%, 8.2%)
Lynchburg City	51680	13.4%	(6.3%, 26.0%)	16.5%	(13.4%, 20.2%)
Manassas City	51683	2.4%	(1.2%, 25.1%)	13.3%	(10.2%, 17.2%)
Manassas Park City	51685	0.0%	(0.0%, 56.6%)	9.4%	(6.4%, 13.7%)
Salem City	51775	23.6%	(5.7%, 61.2%)	19.4%	(17.6%, 21.5%)

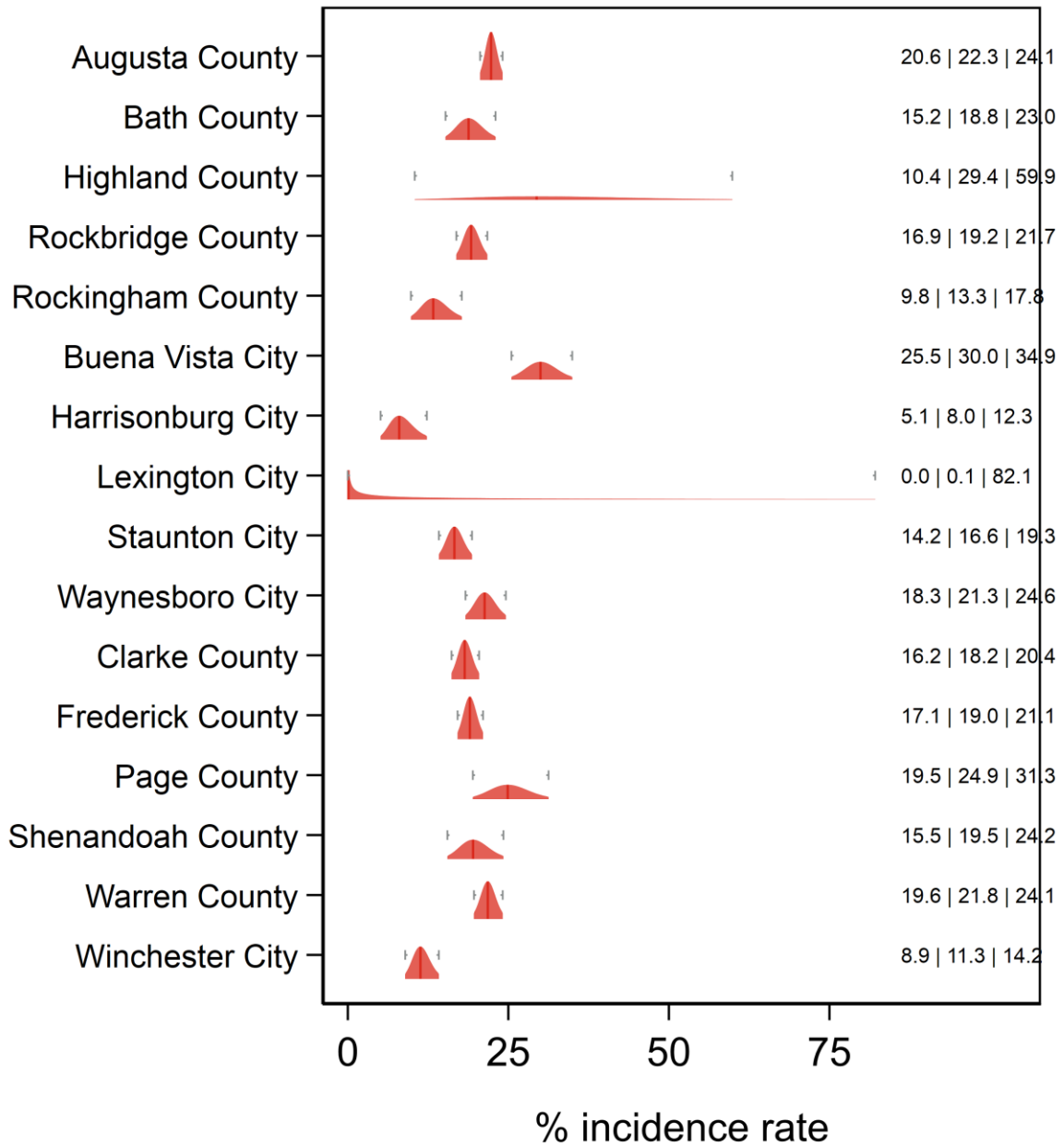
County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Bland County	51021	13.9%	(4.3%, 65.8%)	26.2%	(21.6%, 31.3%)
Buchanan County	51027	49.8%	(28.2%, 71.4%)	44.3%	(38.0%, 50.9%)
Carroll County	51035	36.0%	(17.2%, 60.3%)	28.1%	(25.2%, 31.2%)
Dickenson County	51051	51.9%	(28.8%, 74.3%)	37.1%	(32.2%, 42.2%)
Floyd County	51063	37.4%	(16.5%, 64.2%)	31.0%	(27.0%, 35.3%)
Franklin County	51067	30.3%	(16.9%, 48.1%)	24.7%	(22.4%, 27.1%)
Giles County	51071	42.8%	(11.1%, 81.8%)	24.4%	(20.2%, 29.1%)
Grayson County	51077	31.5%	(12.6%, 59.6%)	29.9%	(26.7%, 33.3%)
Henry County	51089	26.8%	(16.2%, 41.0%)	27.6%	(25.1%, 30.2%)
Lee County	51105	25.0%	(11.0%, 47.3%)	35.0%	(30.8%, 39.4%)
Montgomery County	51121	7.7%	(4.1%, 14.1%)	9.1%	(6.4%, 12.7%)
Patrick County	51141	21.8%	(9.3%, 43.0%)	27.6%	(23.9%, 31.6%)
Pittsylvania County	51143	28.0%	(17.8%, 41.3%)	29.7%	(26.2%, 33.5%)
Pulaski County	51155	45.8%	(28.1%, 64.6%)	27.2%	(24.2%, 30.5%)
Russell County	51167	39.5%	(19.4%, 63.9%)	33.7%	(29.0%, 38.7%)
Scott County	51169	36.9%	(24.3%, 51.6%)	30.5%	(23.6%, 38.3%)
Smyth County	51173	27.7%	(15.1%, 45.2%)	27.5%	(25.3%, 29.9%)
Tazewell County	51185	28.2%	(17.5%, 41.9%)	29.6%	(26.0%, 33.6%)
Washington County	51191	26.6%	(16.2%, 40.3%)	24.7%	(22.6%, 27.0%)
Wise County	51195	32.7%	(21.3%, 46.6%)	29.7%	(25.3%, 34.6%)
Wythe County	51197	24.5%	(11.9%, 43.9%)	26.1%	(23.1%, 29.3%)
Bristol City	51520	37.7%	(7.8%, 81.2%)	18.9%	(14.0%, 25.0%)
Danville City	51590	35.3%	(16.2%, 60.8%)	24.9%	(22.6%, 27.5%)
Galax City	51640	0.0%	(-0.0%, 92.2%)	24.4%	(20.3%, 29.1%)
Martinsville City	51690	10.7%	(1.5%, 48.5%)	24.5%	(20.7%, 28.8%)
Norton City	51720	0.0%	(0.0%, 94.0%)	23.0%	(19.1%, 27.4%)
Radford City	51750	10.6%	(2.7%, 34.0%)	7.2%	(3.2%, 15.4%)
Roanoke City	51770	26.8%	(15.7%, 41.7%)	20.8%	(18.1%, 23.7%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Amelia County	51007	19.2%	(3.9%, 58.2%)	24.6%	(20.8%, 28.8%)
Brunswick County	51025	16.1%	(6.0%, 36.6%)	24.0%	(20.6%, 27.7%)
Buckingham County	51029	9.3%	(2.6%, 28.4%)	27.8%	(24.2%, 31.8%)
Charles City County	51036	0.0%	(0.0%, 78.6%)	25.5%	(22.4%, 28.9%)
Charlotte County	51037	35.2%	(13.2%, 66.1%)	19.4%	(13.1%, 27.7%)
Chesterfield County	51041	12.3%	(8.2%, 18.2%)	13.0%	(11.9%, 14.2%)
Cumberland County	51049	3.9%	(2.1%, 35.4%)	23.6%	(19.7%, 28.0%)
Dinwiddie County	51053	21.6%	(10.5%, 39.3%)	18.6%	(15.2%, 22.5%)
Goochland County	51075	9.3%	(2.6%, 28.5%)	10.3%	(8.5%, 12.5%)
Greensville County	51081	22.4%	(6.6%, 54.2%)	35.6%	(30.4%, 41.0%)
Halifax County	51083	17.9%	(7.9%, 35.7%)	26.6%	(23.5%, 29.9%)
Hanover County	51085	5.8%	(2.5%, 13.1%)	12.2%	(11.1%, 13.4%)
Henrico County	51087	14.6%	(9.7%, 21.6%)	11.1%	(9.8%, 12.6%)
Lunenburg County	51111	5.5%	(2.6%, 35.3%)	24.8%	(21.5%, 28.5%)
Mecklenburg County	51117	33.4%	(20.8%, 48.9%)	21.2%	(17.8%, 25.1%)
New Kent County	51127	18.7%	(7.7%, 38.8%)	17.9%	(14.2%, 22.3%)
Nottoway County	51135	38.5%	(18.3%, 63.7%)	29.8%	(25.2%, 34.8%)
Powhatan County	51145	29.0%	(9.3%, 62.0%)	15.7%	(13.5%, 18.0%)
Prince Edward County	51147	1.2%	(0.8%, 19.5%)	9.4%	(5.7%, 15.2%)
Prince George County	51149	13.1%	(4.9%, 30.6%)	27.5%	(22.8%, 32.7%)
Surry County	51181	46.4%	(12.5%, 84.0%)	29.4%	(23.0%, 36.9%)
Sussex County	51183	24.0%	(8.4%, 52.2%)	22.8%	(18.9%, 27.1%)
Colonial Heights City	51570	26.4%	(10.8%, 51.5%)	16.7%	(13.7%, 20.1%)
Emporia City	51595	12.1%	(1.0%, 89.6%)	26.1%	(20.1%, 33.1%)
Hopewell City	51670	27.7%	(10.8%, 54.7%)	34.4%	(29.4%, 39.8%)
Petersburg	51730	20.0%	(7.5%, 43.5%)	24.7%	(22.1%, 27.6%)

City					
Richmond City	51760	15.0%	(7.8%, 26.8%)	11.3%	(9.4%, 13.6%)

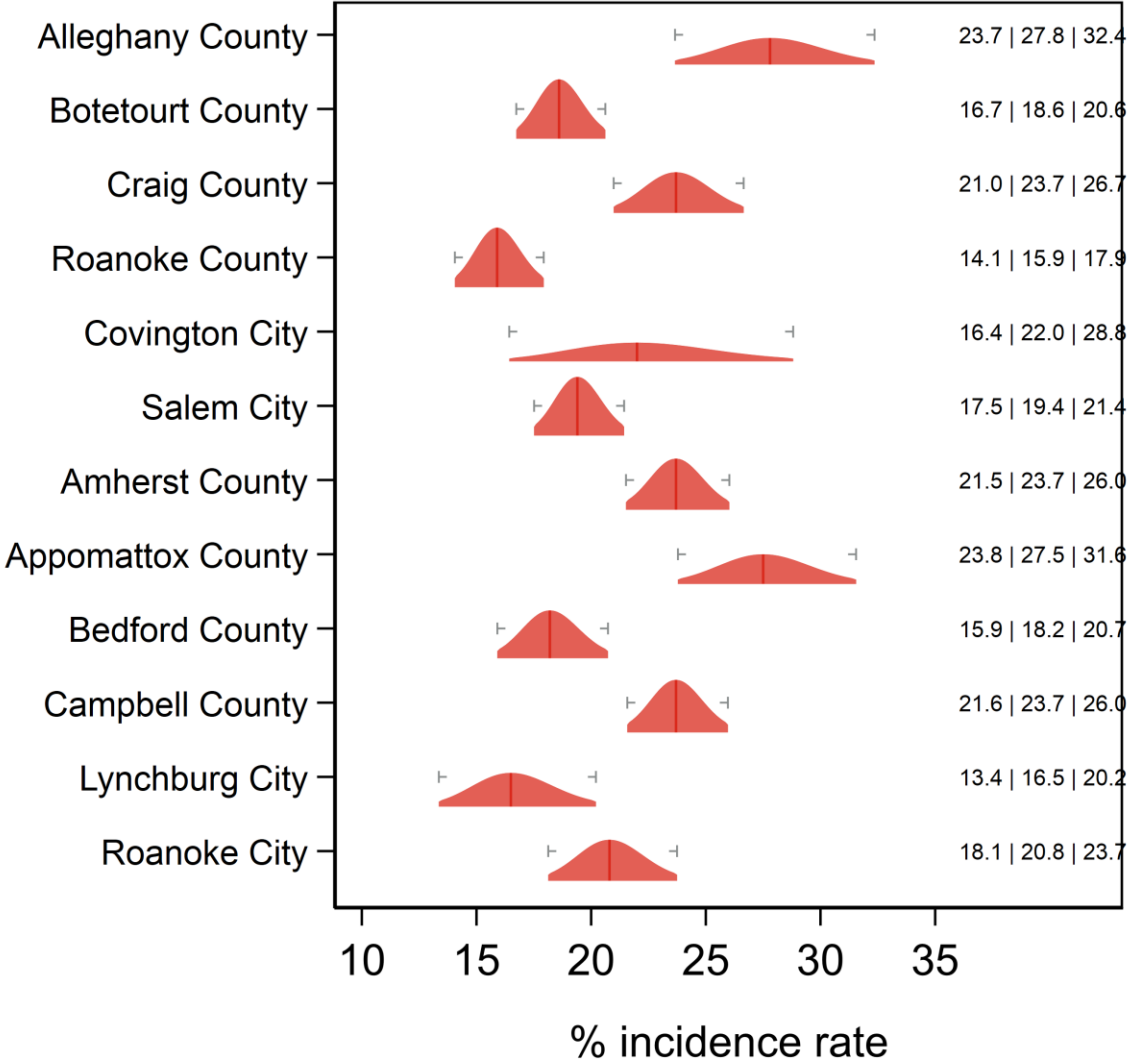
County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Accomack County	51001	26.1%	(15.1%, 41.2%)	22.4%	(18.7%, 26.6%)
Essex County	51057	22.4%	(7.8%, 49.8%)	20.8%	(16.9%, 25.3%)
Gloucester County	51073	15.0%	(7.3%, 28.0%)	12.6%	(9.3%, 17.0%)
Isle of Wight County	51093	26.5%	(10.9%, 51.6%)	21.2%	(19.2%, 23.3%)
James City County	51095	11.0%	(5.5%, 20.8%)	11.7%	(10.3%, 13.2%)
King and Queen County	51097	35.1%	(6.8%, 79.9%)	19.8%	(17.4%, 22.4%)
King William County	51101	28.6%	(8.2%, 64.3%)	20.4%	(18.2%, 22.8%)
Lancaster County	51103	14.9%	(4.9%, 36.9%)	13.9%	(10.9%, 17.6%)
Mathews County	51115	7.8%	(1.9%, 26.6%)	11.7%	(8.7%, 15.7%)
Middlesex County	51119	43.7%	(18.0%, 73.3%)	15.1%	(9.8%, 22.6%)
Northampton County	51131	5.5%	(2.2%, 26.5%)	18.7%	(15.6%, 22.4%)
Northumberland County	51133	4.3%	(2.1%, 24.1%)	13.9%	(10.1%, 18.9%)
Richmond County	51159	23.0%	(12.1%, 39.2%)	21.4%	(18.0%, 25.2%)
Southampton County	51175	9.1%	(4.0%, 31.3%)	18.9%	(15.4%, 22.9%)
Westmoreland County	51193	32.3%	(15.8%, 54.7%)	28.1%	(24.3%, 32.2%)
York County	51199	20.1%	(10.8%, 34.5%)	16.7%	(13.3%, 20.7%)
Chesapeake City	51550	18.1%	(12.1%, 26.0%)	17.7%	(16.1%, 19.3%)
Franklin City	51620	21.3%	(2.8%, 71.7%)	26.5%	(22.2%, 31.3%)
Hampton City	51650	21.9%	(15.2%, 30.4%)	23.4%	(20.2%, 27.0%)
Newport News City	51700	20.0%	(13.3%, 29.1%)	17.9%	(15.8%, 20.3%)
Norfolk City	51710	25.0%	(18.2%, 33.3%)	21.6%	(18.3%, 25.3%)
Poquoson City	51735	17.4%	(2.4%, 64.7%)	10.6%	(7.8%, 14.3%)
Portsmouth City	51740	25.6%	(15.8%, 38.7%)	24.9%	(22.4%, 27.6%)
Suffolk City	51800	11.4%	(5.7%, 21.4%)	17.7%	(15.7%, 19.9%)
Virginia Beach City	51810	14.5%	(10.5%, 19.6%)	13.6%	(11.6%, 15.8%)
Williamsburg City	51830	18.8%	(2.6%, 66.9%)	19.3%	(10.5%, 32.7%)

Current tobacco use Central Shenandoah and Lord Fairfax HDs



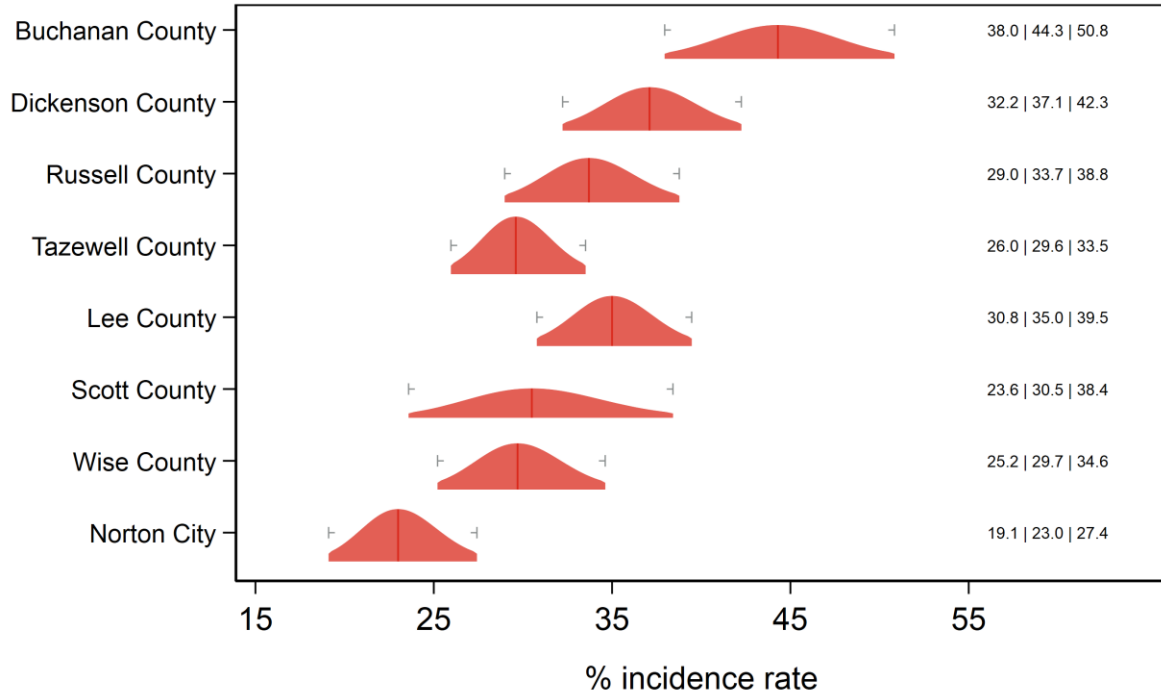
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

Current tobacco use Alleghany, Roanoke and Central Virginia HDs



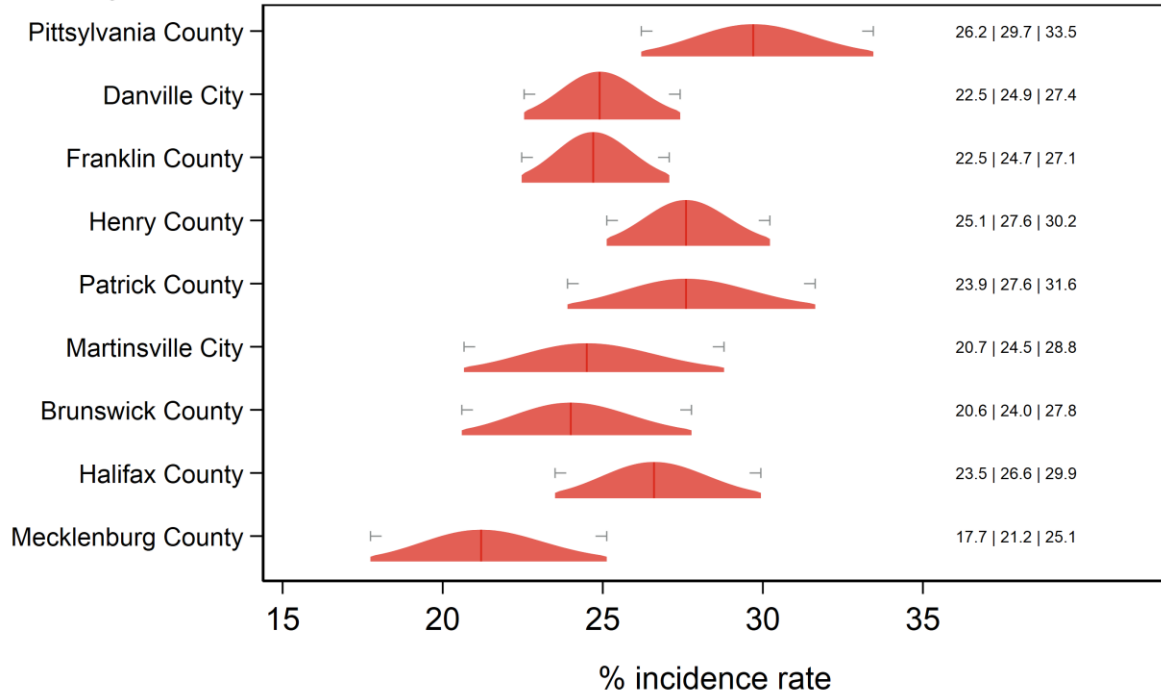
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current tobacco use Cumberland Plateau and Lenowisco HDs



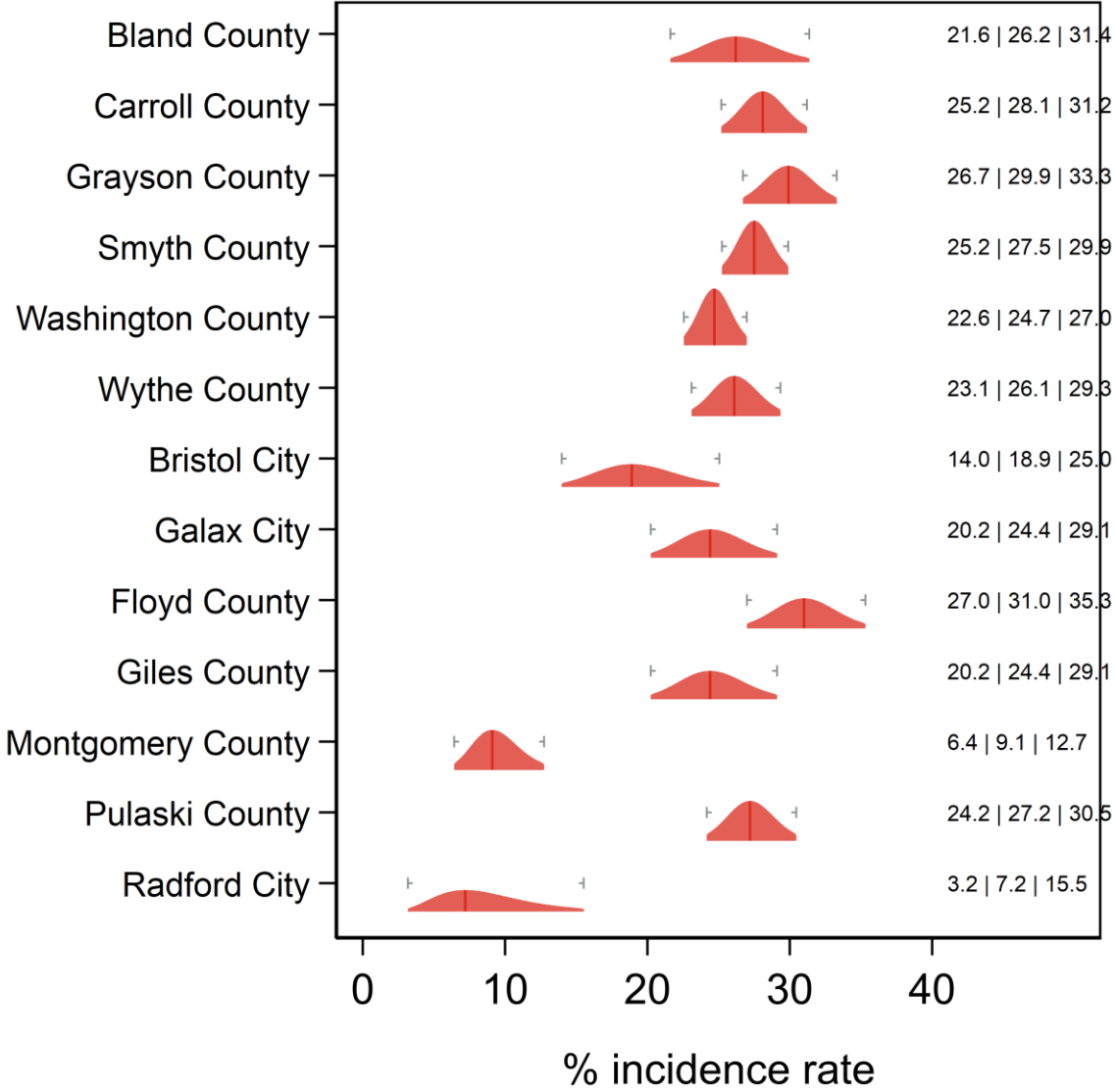
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current tobacco use Pittsylvania/Danville, Southside and West Piedmont HDs



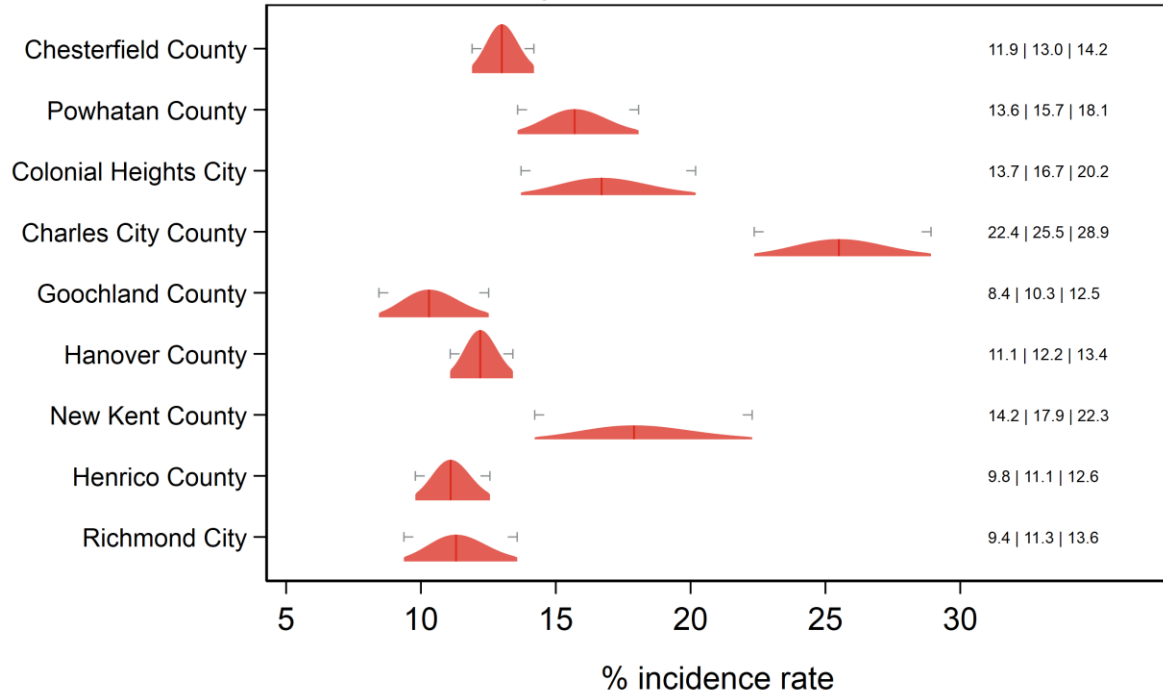
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current tobacco use New River and Mount Rogers HDs



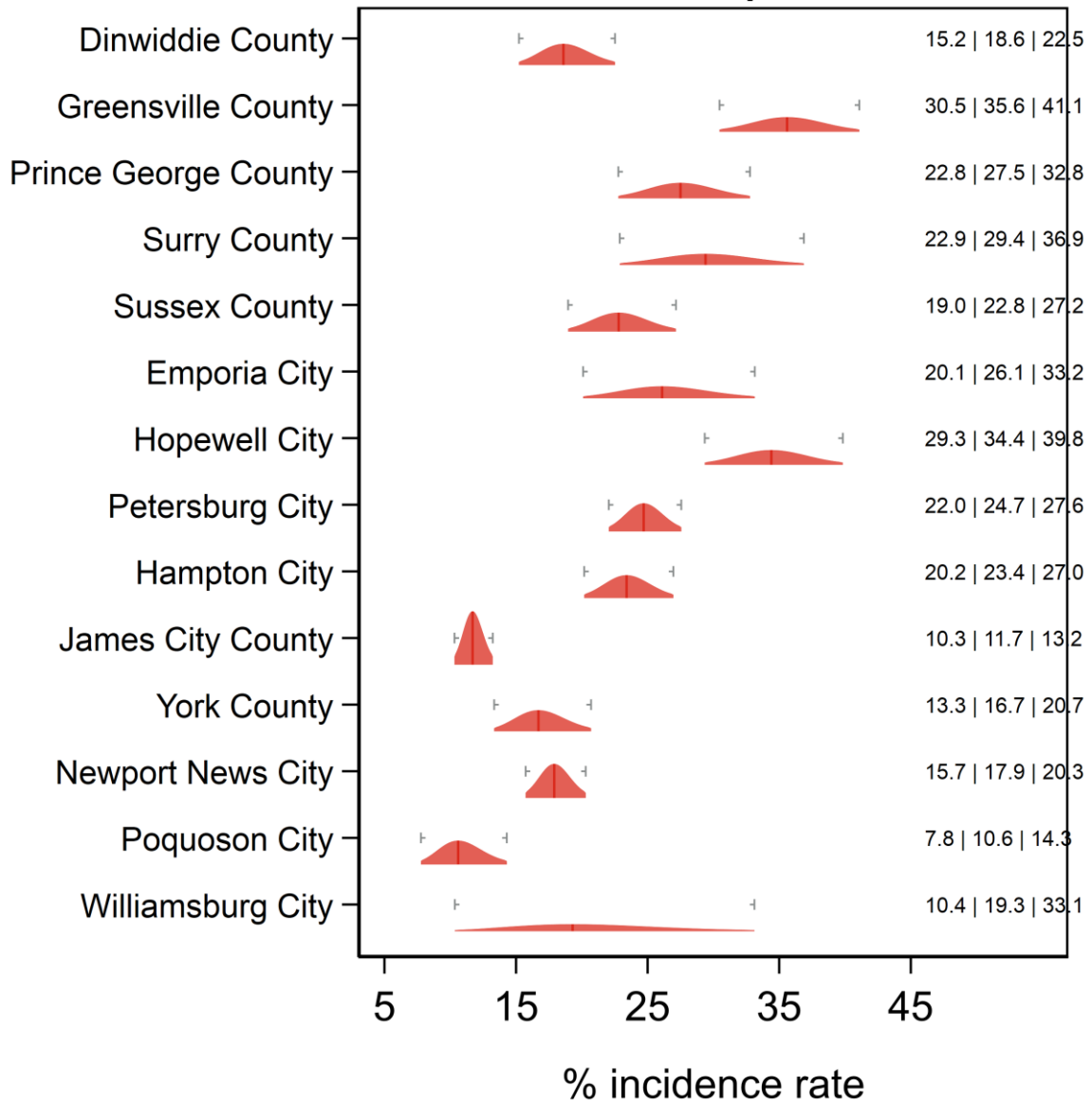
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current tobacco use Chesterfield, Chickahominy, Henrico and Richmond HDs



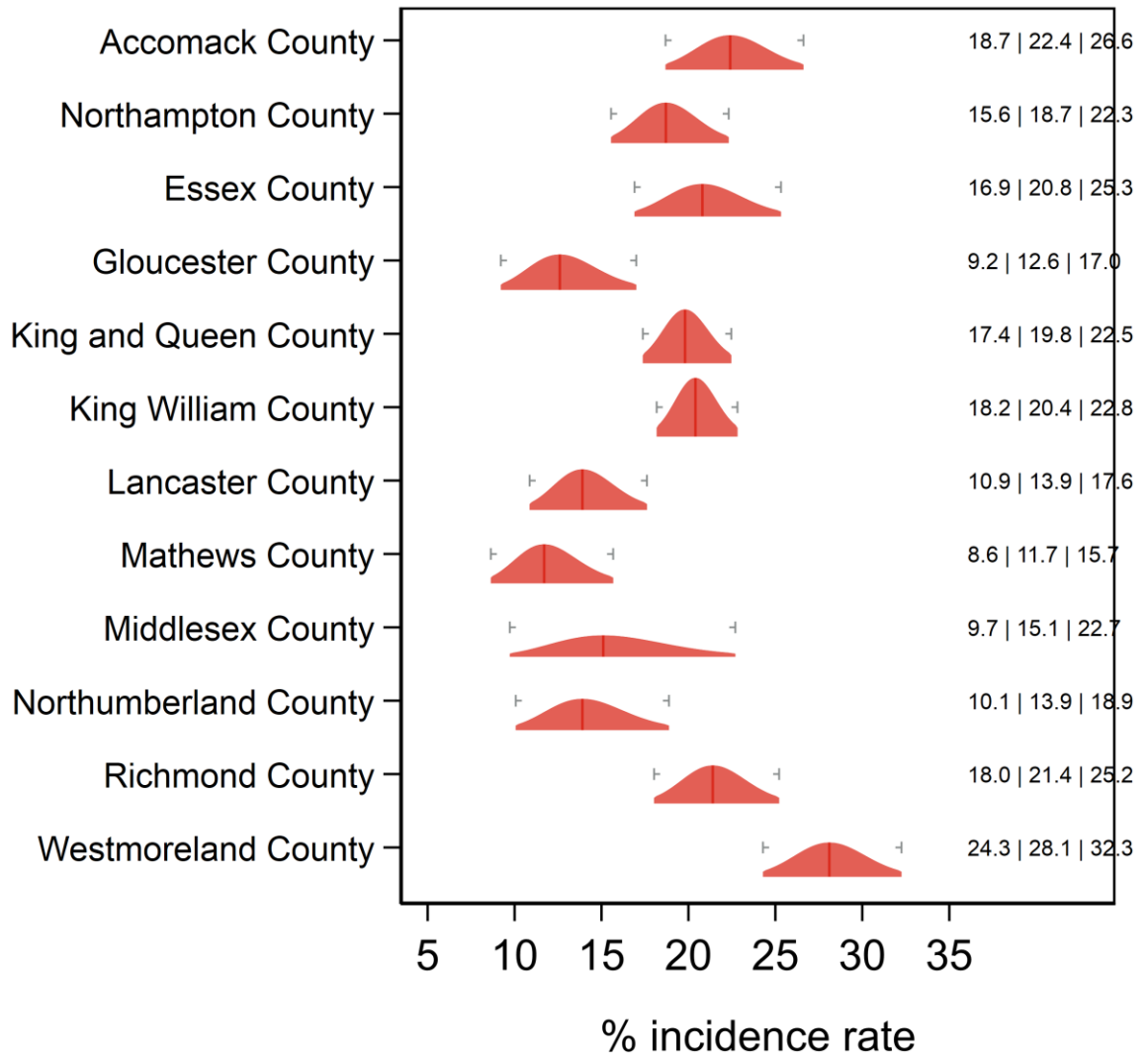
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current tobacco use Crater, Peninsula and Hampton HDs



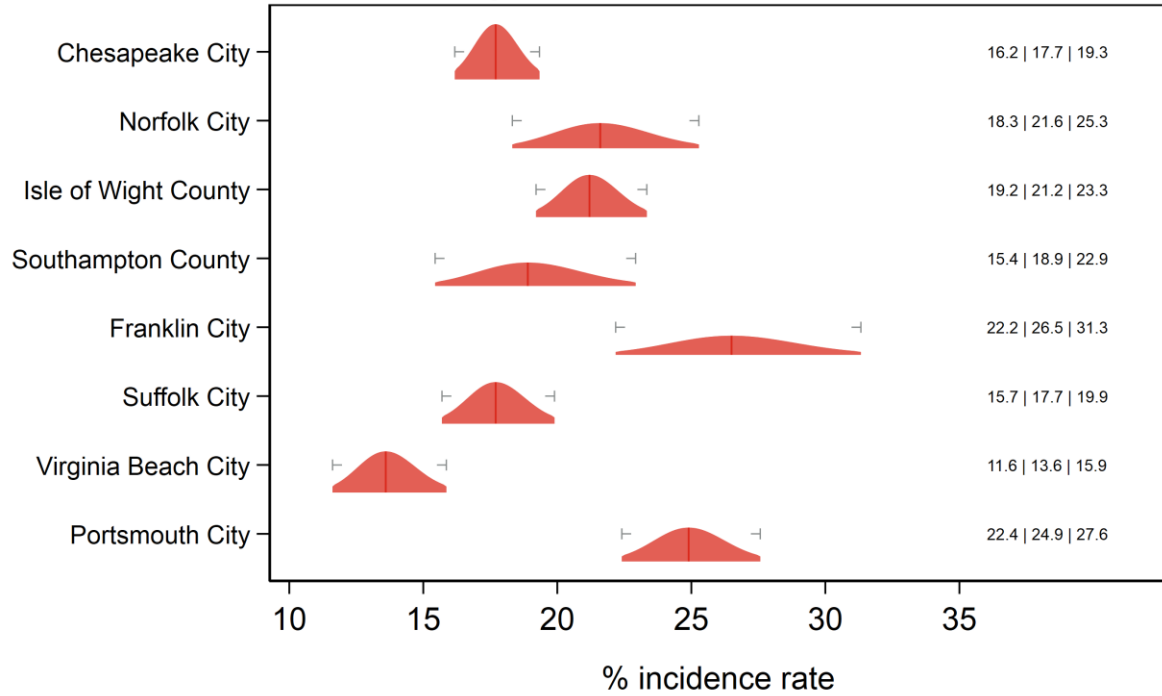
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current tobacco use Eastern Shore and Three Rivers HDs



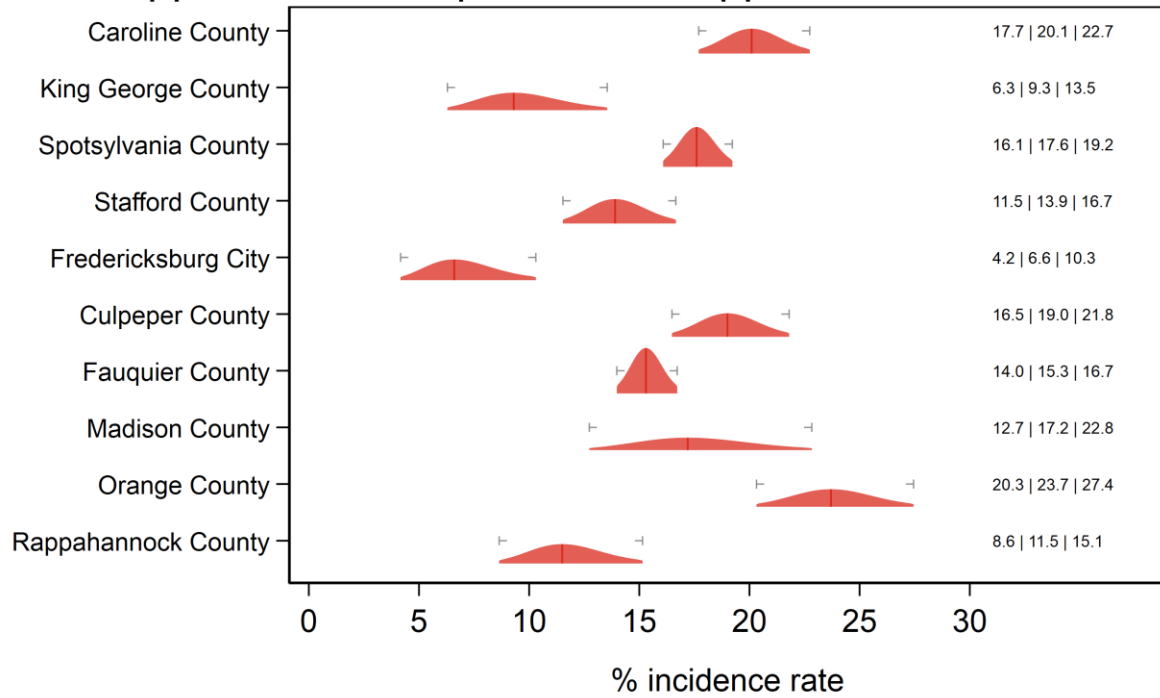
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current tobacco use Norfolk, Portsmouth, Chesapeake, VA Beach, W. Tidewater HDs



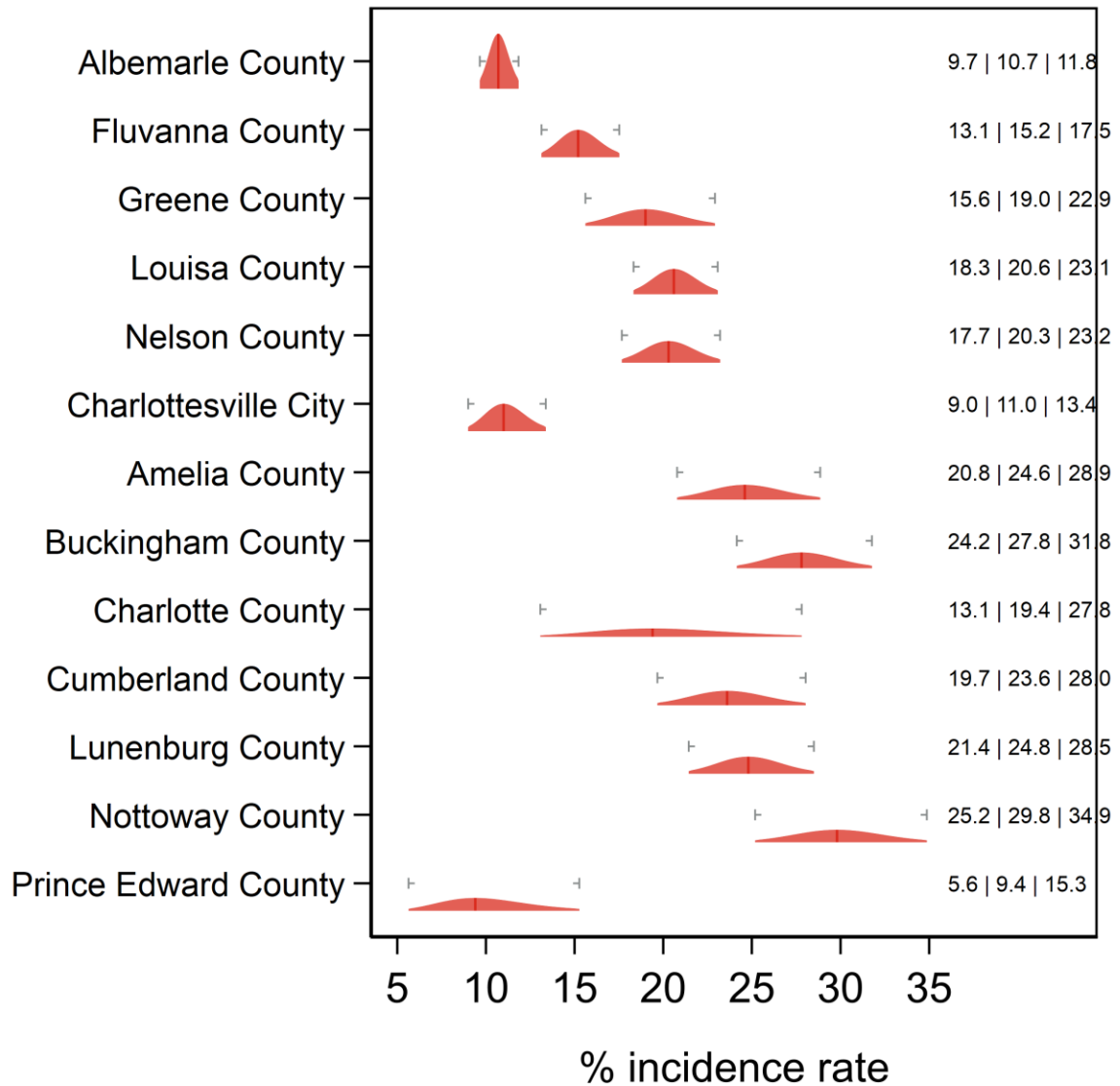
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current tobacco use Rappahannock/Rapidan and Rappahannock HDs



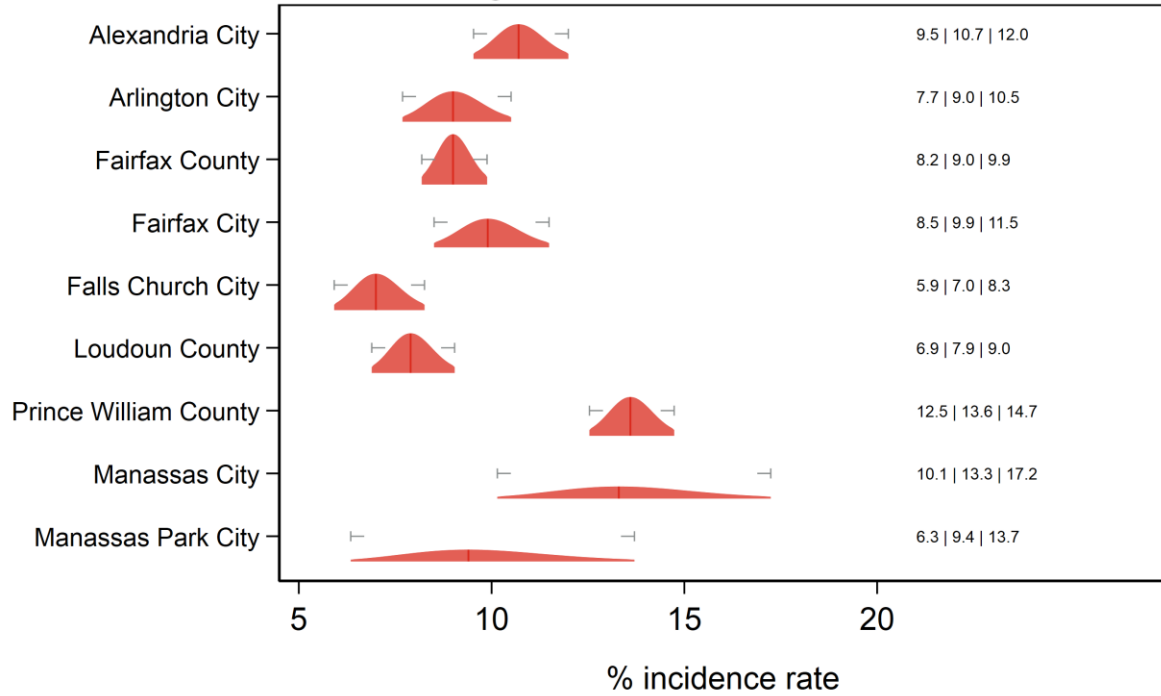
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current tobacco use Thomas Jefferson and Piedmont HDs



Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current tobacco use Alexandria, Fairfax, Arlington, Loudon, Prince William HDs



Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Additional diagnostics

Direct estimate is inside the 95% SAE Wilson CI: 45 areas.

Direct estimate is outside the 95% SAE Wilson CI: 88 areas.

SAE estimate is inside the 95% direct Wilson CI: 129 areas.

SAE estimate is outside the 95% direct Wilson CI: 4 areas.

SAE Wilson 95% CI is fully inside the 95% direct Wilson CI: 119 areas.

SAE Wilson 95% CI partially overlaps with the 95% direct Wilson CI: 14 areas.

SAE Wilson 95% CI and the 95% direct Wilson CI do not overlap: 0 areas.

SAE standard error is less than the direct standard error: 123 areas.

SAE standard error is greater than the (nonzero) direct standard error: 1 areas.

Direct standard error is zero: 9 areas.

Proportion of SAE variance due to ACS sampling error: min = 0.00%; med = 4.89%; max = 20.92%.

Proportion of SAE variance due to sampling error in regression coefficient estimates: min = 0.34%; med = 87.94%; max = 99.19%.

Proportion of SAE variance due to model selection: min = 0.33%; med = 5.54%; max = 99.66%.

Proportion of SAE variance due to area random effects: <identically zero>